MODIS TECHNICAL TEAM MEETING

June 2, 1994

The MODIS Technical Team Meeting was chaired by Vince Salomonson. Present were John Barker, Dick Weber, Wayne Esaias, Bill Barnes, Dorothy Hall, David Herring, Janine Harrison, Harry Montgomery, John Bauernschub, Bruce Guenther, Yoram Kaufman, Locke Stuart, and Les Thompson.

1.0 SCHEDULE OF EVENTS

June 15	**533Q Financial Reports due to Teresa Mautino**
July 15	Semi-Annual Reports due to Barbara Conboy
Sept. 19-21 (tentative)	SDST Simulation Data Workshop, Flathead Lake, MT
Oct. 18	Calibration Working Group, GSFC area
Oct. 19 - 21	MODIS Science Team Meeting, GSFC area

2.0 MINUTES OF THE MEETING

2.1 SBRC Selects New MODIS Program Manager

Salomonson announced that he met Lee Tessmer this morning. Tessmer will succeed Lloyd Candell as SBRC's MODIS Program Manager on June 15. Formerly the Landsat-7 Program Manager, Tessmer is credited with getting Landsat back on track. Salomonson said he feels the move signifies that SBRC has a grip on this task. The Team recognizes Candell's significant achievements on the MODIS project and thanks him for a job well done.

2.2 MODIS Project Reports

Weber reported that the radiative cooler is back in the vacuum chamber at SBRC; it should be cold by Monday, June 6. He explained that it was taken out because there was a thermal short in the radiative cooler due to several screws on the second stage touching the cold stage.

Weber reported that SBRC conducted a dye-penetrant test to look for cracks in the beryllium main frame panels. The test consists of painting the main frame panels with a blue dye, wiping off the dye, and then illuminating it with black light to look for cracks (where the blue dye was unable to be wiped off). Weber stated that SBRC found nothing suspicious. SBRC will assemble the main frame panels next week to do a fit check of the parts.

2.3 MCST Reports

Guenther reported that MCST is making progress in staffing up to meet its critical needs. They have set a tentative start date of July 25 for Shelley Petroy to

begin assisting in MCST's management functions. Guenther stated that a senior systems level engineer position will soon be filled. Also, later this month a programmer level 1 is expected to start working with MCST.

2.3.1 Equations for Onboard Calibration

Montgomery announced that MCST has a 10- to 15-page rough draft explaining their equations to be used for MODIS' onboard calibrators (OBC). Their next step is to conduct analyses. He said that MCST is in the process of drafting a bubble flow diagram showing how all OBCs fit together, as well as all vicarious calibration methods. MCST is also developing a strategy for adjustment when and if the different calibration sources don't agree with one another. Montgomery observed that MODIS calibration is subjective and there needs to be a level of objectivity.

2.3.2 Calibration Testing Concerns

Montgomery said he is concerned with the testing program for OBCs at SBRC. He explained that a lot of energy comes from the optics, for which corrections are needed. However, he noted, SBRC makes the assumption that the background is identical for all three viewing situations for calibration—the blackbody, the space view, and the ground target. The universal algorithm for the thermal bands attempts to correct for changes in the MODIS instrument temperature. This algorithm will be fully developed only by varying the temperature in the thermal vacuum test. At present the engineering model test calls for only one temperature, hence the algorithm will not be complete. Montgomery stated that SBRC has a theoretical curve for taking the different backgrounds into account, but their technique has not been demonstrated. He added that you cannot determine the effects of temperature change if you only test at one temperature. The protoflight model will be characterized at three temperatures. Montgomery will be working with Weber to decide how to interact with SBRC on these matters.

2.4 Possible Additions to the MODIS Team

Barnes announced that there may be an EOS Science Announcement of Opportunity (AO) forthcoming. More details will be sought as to what is specifically planned for this AO

2.5 Microwave Snow Cover Estimates

Hall reported that she is exploring the possibility of using MODIS to complement passive microwave snow cover estimates. Theoretically, she explained, MODIS images could be overlaid on microwave images and used to sharpen the definition of the edges of snow patches in images.

2.6 SCAR-C Preparation Meeting

Kaufman announced that he will attend a meeting next week at NASA Ames to discuss the transfer of the MODIS Airborne Simulator (MAS) from the C130—on

which it will fly as part of the BOREAS campaign—to the ER-2 for the SCAR-C campaign.

2.7 Fund Reprogramming

Harrison announced that reprogramming of funds is taking place this week so money should begin showing up next week in the Science Team members' budgets. Additionally, modifications for adding funds to team members' contracts should be issued the last week in June.

2.7.1 Next Science Team Meeting

Harrison announced that the next MODIS Science Team Meeting will be held October 19-21 at a site near Goddard. Guenther requested reservation of a meeting room one day prior to the Science Team meeting for the Calibration Discipline Group.

3.0 ACTION ITEMS

3.1 Action Items Carried Forward

1. *Barker*: Forward information on MODIS' spectral bands to Hugh Kieffer.
2. *Fleig & Herring*: Review the MODIS brochure and recommend changes / alternatives [Ongoing, will have first draft done by the end of June].
3. *Barnes*: Investigate the procedure for redesignation of channels for night data return (to Kaufman). [Barnes has determined that MODIS channels can be redesignated for night data return; however, this AI is still open.]
4. *Fleig and Ungar*: Interact with the group leaders prior to developing a MODIS data simulation plan for review at the next Science Team Meeting, due July 4.
5. *Masuoka and Fleig*: Prepare information or provide a tutorial on team member coding standards.
6. *Guenther*: Respond to Slater's letter to Kahle regarding involvement of SWAMP in EOS cross-calibration of algorithms for Level 2 data products.
7. *Fleig*: Review the impact of using C++ in MODIS algorithm development.
8. *Masuoka*: Provide Gordon's Water Leaving Radiance software to ESDIS project as a test case for the utility of massively parallel processing after a beta delivery is received from the Oceans Team. [SDST is waiting for delivery of the Ocean Group's beta software.]